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ABSTRACT

This annotated bibliography cites journal articles, books and ERIC documents related to cross-age tutoring. Contents are organized in four sections: (1) trends indicating a need for cross-age tutoring; (2) variables in implementation of cross-age tutoring programs; (3) positive effects of cross-age tutoring; and (4) a review of research in cross-age tutoring. The content of each entry is summarized and three conclusions are drawn from the literature reviewed. (Author/RH)

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CROSS-AGE TUTORING: MEETING INDIVIDUAL NEEDS EFFECTIVELY

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INTRODUCTION

New challenges have appeared in the classroom as a result of recent forces or trends in the field of education which have indicated a need for innovative methods of individualization. Educators are being strongly encouraged to be more accountable for the progress of each individual student in their classroom whether they be mainstreamed special education or regular students. Moreover, the simple fact that student ability levels vary significantly within any one regular classroom makes being accountable for each student a logistical challenge for the teachers in their effort to meet each student's needs. As an example, "by the end of the first grade, children already show a range of three years in achievement reading" (Melaragno & Newmark:33). A practical, effective method of individualized instruction is needed that will allow the teacher a lower teacher-student ratio and, hopefully, will provide the teacher with a better indication of each student's ability level and program goals. In addition, it must bring about improvement in the student's academic skill level. Cross-age tutoring and peer tutoring, two terms which were used synonymously in this study, were investigated in an effort to substantiate their potential for accomplishing those purposes.

Cross-age tutoring is not really an innovative approach

to instruction. Students-tutoring-students was a practice that arose and was used in one-room school houses of the past where students of all ages assisted each other in their studies. Recently an upsurge in the number of cross-age tutoring programs implemented in the last ten to fifteen years has emerged. It was due to this apparent reemergence of cross-age tutoring programs that prompted this investigation in order to determine their present-day effectiveness as a complemental mode of individualized instruction in the classroom.

STATEMENT OF THE PROBLEM

The advent of various trends in education has indicated a need for a change in the learning environment, in particular, a method of individualization to complement the traditional methods of instruction in the classroom. The cognitive and social-emotional benefits of cross-age tutoring were investigated in an effort to identify a potential effective solution to the problem.

ORGANIZATION OF THE STUDY

This study was presented as an annotated bibliography of sources that included journal articles, books, and ERIC documents

related to cross-age tutoring. The four main divisions developed were as follows:

A. Trends indicating a need for cross-age tutoring

Several negative trends in education were discussed as indicating a definite need for individualization within the classroom and, in particular, for cross-age tutoring in an effort to lessen their detrimental effects.

B. Variables in implementation of cross-age tutoring programs

This division provided specific methods, materials, and factors involved in establishing any tutorial programs. This was done to outline the many variables which must be considered when evaluating the effectiveness of such a program.

C. Positive effects of cross-age tutoring

This division dealt with current research in the field and gave an indication of the relative effectiveness of cross-age tutoring in the areas of cognitive gains and social-emotional gains for the tutor, tutee, or both.

D. Review of research in cross-age tutoring

The research that has been completed in cross-age tutoring was thoroughly examined in this division. The authors' conclusions were presented. Limitations in the research to date that should be rectified in the future were also identified.

DEFINITION OF TERMS

Affective Learning - "Emphasizes interests, attitudes, and values, and the development of appreciations and adequate adjustment" (Stanley & Hopkins: 174).

Cognitive Learning - "Deals with the recall or recognition of learned material and the development of intellectual abilities and skills" (Stanley & Hopkins: 174).

Criterion-referenced Testing - "Test in which an individual is assessed relative to a certain standard rather than to his/her performance relative to other individuals or an average for a group" (Page: 92).

Cross-age Tutoring - "Use of older students from higher grade levels to provide increased help and attention for younger students at lower grade levels" (Page: 92).

Peer Tutoring - "Where students assist in the instruction of fellow students" (Page: 261).

Projective Test - "Test used for any personality study which requires an individual to respond to ambiguous stimuli such as stories or completion sentences" (Page: 275).

Tutee - "A student who is tutored" (Dineen, Clark & Risley: 231).

Tutor - "A person who gives remedial or additional instruction" (Page: 348).

ANNOTATIONS

TRENDS INDICATING A NEED FOR CROSS-AGE TUTORING

Elliott, Arthur, "Turning It Around in Education," The Clearing House 50:285-290, March, 1977.

Current alarming educational trends were identified. It was stated that children were becoming more passive in their role in the educational system. SAT scores were cited as declining since the seventies. Crime in the schools including vandalism was shown to be a major problem. The contention was made that schools should be reorganized so as to give the children an active role, definite responsibilities, and positive results. Cross-age tutoring was investigated through some limited research. It was concluded that tutoring was achieving results that paralleled the needs stated.

Melaragno, Ralph J., and Newmark, Gerald, "A Tutorial Community Works Toward Specified Objectives in an Elementary School," Educational Horizons 48:33-37, Winter, 1969-1970.

This article pointed out a need for cross-age tutoring as an instructional method to bring about a radical change in education. Among the developments stated as indicating the necessity of a new approach were: an increase in elementary school graduates unable to achieve competency in the basics, an increase in the number of dropouts, a decrease in overall student enthusiasm, an increase in boredom among higher achievers, and a significant range of achievement levels even as early as first grade. Suggestions for use in setting up a tutoring program in a school were also briefly outlined.

Thelen, Herbert A., "Tutoring by Students," The School Review 77:229-244, September-December, 1969.

The main thrust of this classic article in cross-age tutoring was to outline major negative societal and educational trends and to substantiate the need for cross-age tutoring as a method of instruction to combat these trends. Some of the elements discussed were: the inability of the disadvantaged to meet the needs of today's society alone, the inappropriateness of some materials and methods for minority groups creating a kind of discrimination, the overwhelming effect of competition on students, and the movement toward treating the masses rather than the person. This writing concluded with a list of possible beneficial outcomes likely to emerge from the extended use of cross-age tutoring in our educational system.

VARIABLES IN THE IMPLEMENTATION OF CROSS-AGE TUTORING PROGRAMS

Boraks, Nancy, and Allen, Amy Roseman, "A Program to Enhance Peer Tutoring," The Reading Teacher 30:479-484, February, 1977.

A list of ten essential items to be included in a tutor training program was described in this article. The elements recommended for inclusion in training were: correcting incorrect responses before proceeding, keeping the tutee on task, informing tutee of the objectives, praising tutee, teaching tutee to correct his/her own responses, using conversation to set the tutee at ease, showing enthusiasm, giving directions clearly, and avoiding the use of only one activity and one type of questioning.

Ehly, Stewart W., and Larsen, Stephen C., "Peer Tutoring to Individualize Instruction," The Elementary School Journal 76:475-480, May, 1976.

This article outlined specific suggestions for the implementation of a peer tutoring program. The inclusion of administrative backing, the need for proper resources and space, and the importance of teacher cooperation were discussed. Guidelines were presented for the selection and training of tutors, the sequencing of the program, the supervision of the tutors and tutees, and the length and number of sessions. Emphasized was the importance of good preparation, organization, and follow through of the tutoring program.

Gartner, Alan; Kohler, Mary Conway; and Riessman, Frank, Children Teach Children Harper & Row, New York, 1971, 180 pp.

A thorough survey of cross-age tutoring programs and a study of their effectiveness were presented. A guide was included which provided detailed, step-by-step instructions as to the methods needed in setting up a tutoring program. The limitations of the present programs and the reasons for the delay in the institutionalization of this form of individualized teaching in the schools were also outlined.

Hagan, John W., and Moeller, Tamerra, Cross-Age Tutoring, ERIC Document Reproduction Service, ED 085 090, Report No. 2, Department of Psychology, University of Michigan, July 1971.

A program in cross-age tutoring was described. Important factors to consider in implementation were tutor training and orientation, continuous interaction between receiving and sending teachers, tutor and tutee selection, location of tutoring sessions, and length of sessions. Suggestions for further research were stated as being teacher satisfaction, quality of interaction, and social adjustment.

Harrison, Grant Von, "A Model for the Development of an Effective Tutorial System," NSPI Journal 17:6-7,10, December, 1978.

A structured tutoring system with specific training techniques and procedures was stated as being essential for the success of any peer tutoring program. A list of factors basic to a structured tutorial program included preset objectives and sequence of instructions, materials which met the objectives, appropriate management and supervision methods, efficient record-keeping methods and effective training techniques. The training techniques were outlined in four categories: establishing rapport, training tutors to properly use appropriate materials, using the specific instructional techniques to enhance the objectives, and utilizing good record keeping procedures.

Larsen, Stephen C., and Ehly, Stewart, "Peer Tutoring: An Aid to Individual Instruction," The Clearing House 49:273-277, February, 1976.

Instructional philosophy has changed to an emphasis on individualization with each teacher being held more accountable for the success of each student. Peer tutoring was discussed as an effective, practical method for achieving individualization. This article investigated its history, the need for proper teacher and administrative support, the guidelines for pairing tutors and tutees, the training methods for the tutor, and the supervision of the program.

Lippitt, Peggy; Eiseman, Jeffrey; and Lippitt, Ronald, Cross-Age Helping Program - Orientation, Training, and Related Materials, Maxwell Printing Co., Inc., Plymouth, MI, 1969, 154 pp.

This orientation and training manual was developed to provide the coordinators of a cross-age tutoring program a step-by-step guide to implementing it. This work also dealt with orientation of the school staff, staff training, tutor training techniques, and tutor seminars. It outlined specific suggestions on how to handle various problems if they occurred.

Lundell, Kerth T., and Brown, William E., "Peer Tutoring: An Economical Instructional Model," Academic Therapy 14:287-292, January, 1979.

The low-achieving and learning disabled students in the regular classroom were cited as needing an instructional strategy to effectively meet their individual needs. Peer tutoring was recommended. Lundell and Brown's program model was outlined. Educational consultant reviewed the program with the following comments. It was favorably viewed by the community; had excellent structure, good supervision, and well-written objectives; and was found to meet goals of cost-effectiveness. The recommended requirements for peer tutoring programs were: a good monitoring system, criterion-referenced pre- and post-tests, high interest materials, and tutor training.

Melaragno, Ralph J., Tutoring with Students - A Handbook for Establishing Tutorial Programs in Schools, Educational Technology Publications, Inc., Englewood Cliffs, New Jersey, 1976, 160 pp.

An excellent sequence of activities in the preparation for and the actual implementation of a tutorial program was presented and described in detail. It emphasized the importance of meetings with all involved teachers and administrators, of obtaining a consensus of approval on procedures, of developing good objectives, of notifying parents, of training the tutors, and of using good evaluation and observation skills while the program was ongoing.

Weinstein, Gerald, and others, Youth Tutoring Youth: A Manual for Trainers; For the Tutor; Tutoring Tricks and Tips; You're the Tutor, ERIC Document Reproduction Service, ED 063 543, Massachusetts University, School of Education, Office of Education (DHEW), Washington, D.C., May, 1970.

This work presented an excellent training manual which emphasized both academic and interpersonal elements of cross-age tutoring. It provided detailed descriptions of a tutor training program focusing on the development of the "self". Suggested games and activities were also provided for the tutor. This manual even presented excellent ideas for use by the tutors when problems of boredom, misbehavior, etc. arose in a tutoring session.

POSITIVE EFFECTS OF CROSS-AGE TUTORING

Cognitive Gains

Cloward, Robert D., "Studies in Tutoring," The Journal of Experimental Education 36:14-25, Fall, 1967.

Tenth and eleventh graders were paid to tutor fourth and fifth grade, low-achieving students in a slum area through Mobilization for Youth, Incorporated. After a preservice training experience, this classic experiment obtained differences in exposure by having one group receive four hours a week of tutoring, another receive two hours a week, and a well-matched control group receive no tutoring. Results comparing pre- and post-test scores on a standardized reading test indicated significant gains at the .05 level in reading skill by both tutors and tutees. No difference was noted in school grades, attitudes, social values, or aspirations.

Dineen, John P.; Clark, Hewitt B.; and Risley, Todd R., "Educational Benefits of Tutoring," Journal of Applied Behavior Analysis 10:231-238, Summer, 1977.

Three children were used in this study of tutoring to teach and learn spelling words. Following training and pre-testing on the three word lists (tutored words, tuteed words, and control words), each child tutored, was tutored by, and served as control for each of the other children at specified and equivalent lengths of time with specific word lists. Despite the fact that only three students were used, this study used mean percent changes in number of words spelled correctly to indicate an increase in spelling accuracy for those words taught as well as those words learned through the teaching by a peer. The spelling of control words showed no improvement.

Driscoll, Patrick A., "A Summer Remedial Program for Primary Children," The National Elementary Principal 48:43-44, January, 1969.

Forty sixth graders at Walt Whitman Elementary School in Milwaukee, Wisconsin volunteered to tutor in math, spelling, reading, and writing. The program war evaluated through student, parent, and teacher observations. Although it was highly subjective as opposed to statistical, it was accepted that teachers were capable of reliable, valid reports. Teachers reported 18 students showed no loss nor marked improvement, 13 students made significant improvement, 4 tutors became disinterested, and 5 students showed some loss of learning.

Erickson, Marilyn R., and Cromack, Theodore, "Evaluating a Tutoring Program," The Journal of Experimental Education 41:27-31, Winter, 1972.

Twelve underachieving seventh grade boys tutored twelve underachieving third grade boys in this study. The objective was to improve reading skills of the tutors and tutees by building self-confidence and oral language skills. Although the results could have been questioned because of the small number of students used; the tutees differed significantly from the controls at the .01 level. However, Campbell's Regression Discontinuity Design, which compared change patterns with the control group, was used to show effect on the tutors when there were no differences found after a t test. This information was less convincing.

Frager, Stanley, and Stern, Carolyn, "Learning By Teaching," The Reading Teacher 23:403-405,417, February, 1970.

Two types of tutor instruction were used in this study with 48 sixth graders and kindergarteners. One type of instruction was traditional. The other was based on teaching-learning principles. The kindergarten students were divided into those taught by group-one tutors, those taught by group-two tutors, and those used as controls. Using a t-test, the tutored children were found to have made greater gains in reading on the post-test at the .001 level. Absenteeism also reduced to zero. Lower achieving tutors showed the greatest differences from controls in school morale, attitude, attendance, and self-concept.

Harris, V. William, and Sherman, James A., "Effects of Peer Tutoring and Consequences on the Math Performance of Elementary Classroom Students," Journal of Applied Behavior Analysis 6:587-597, Winter, 1973.

Fourth and fifth graders tutored each other in math problems during unstructured peer tutoring sessions. Fifteen minutes before the math period, the problems were studied in small groups. A control group was given the problems, but were to study independently. A last group was given related math problems before the math session using the same tutorial precedures as in the initial group. In comparing the mean per cent correct and mean number of completed problems of the tutored versus the independent study groups, it was found that the frequency of correct and completed problems was higher for tutored groups.

Howell, K. W., and Kaplan, J. W., "Monitoring Peer Tutor Behavior," Exceptional Children 45:135-137, October, 1978.

This study investigated the utility of a tutor-tutee interaction monitoring form. Fifteen third, fourth, and fifth graders were divided into three equal groups: tutors, tutees, and controls. The tutors were shown the observer's notes and suggestions after each session. Baseline and treatment lines in oral reading rates were plotted on a graph. Positive slope changes indicated an increase in reading rate for tutees, but decreases were noted for the controls who read silently. Although the results would have better supported the use of a monitoring system if the control group was tutored without the use of the form; they did indicate the effectiveness of peer tutoring over silent reading.

Johnson, Martha, and Bailey, Jon S., "Cross-Age Tutoring: Fifth Graders as Arithmetic Tutors for Kindergarten Children," Journal of Applied Behavior Analysis 7:223-232, Summer, 1974.

Five fifth grade students tutored five kindergarten students in basic math skills for seven weeks using a well-matched control group of kindergarteners who had no tutoring. Pre- and post-tests were teacher-made tests. Three training sessions were provided to the tutors. Observers used a form to document type of interaction. The tutored kindergartners gained 40 percentage points on the post test over the percentage of correct responses obtained on the pre-test. The control group increased only 12 percentage points.

Klesterman, Sister Rita, "The Effectiveness of a Diagnostically Structured Reading Program," The Reading Teacher 24:159-163, November, 1970.

This well-controlled study involved students majoring in elementary education tutoring fourth grade students in reading. One control school and three experimental schools were used. All students were given a pre- and post-test. The mean differences at the .05 level of significance indicated that students who were tutored individually and in small groups made significantly greater gains in comprehension and reading achievement than the students in the classroom control group.

Landrum, John W., and Martin, Mary D., "When Students Teach Others," Educational Leadership 27:446-448, February, 1970.

The One-to-One cross-age tutoring program in Los Angeles County Schools selected tutors who were low-income, high school dropouts at least two years behind in reading skills to teach fourth, fifth, and sixth graders for six weeks in summer school. Reported gains in reading scores on a standardized reading test were 8 to 8.5 months for tutors and 4.6 to 4.8 months for tutees. The program's success caused 18 surrounding school districts to initiate a similar program in subsequent summers through Neighborhood Youth Corps and ESEA Title 1 funds.

Snapp, Matthew; Oakland, Thomas; and Williams, Fern C., "A Study of Individualizing Instruction by Using Elementary School Children As Tutors," Journal of School Psychology 10:1-8, March, 1972.

Fifth and sixth graders tutored sixty disadvantaged first, second, and third graders for twenty minute sessions four days a week in reading. One treatment group reinforced while the other did not. There was also a well-matched control group. The tutees showed statistically significant, but limited, gains as compared to the control group on the criterion-referenced post-test measure at the .01 level. However, there were no significant differences in gain noted between the tutors and the controls. Reinforcement also appeared to have no significant effect on the groups.

Social-Emotional Benefits

Bean, Rita, and Luke, Catherine, "As a Teacher I've Been Learning..." Journal of Reading 16:128-132, November, 1972.

Thirteen high school students referred because of problems evidenced by a lack of school success tutored thirteen elementary students in reading. The program involved careful pairing of tutor and tutee, well-planned orientation for the tutors, and close supervision by the teachers during tutoring sessions. The primary goal of the program was the development of a positive self-concept in addition to improvement in reading skills. A sentence completion instrument was used to evaluate feelings. Results indicated 87% of the elementary student responses and 56% of the high school students responses were self-actualizing, which demonstrated a need satisfaction reaction to the experience.

Elliott, Arthur, "Student Tutoring Benefits Everyone," Phi Delta Kappan 54:535-538, April, 1973.

This article discussed several research studies in cross-age tutoring and their results. Based on these results, a summary of outcomes of tutoring was devised. It was stated that tutoring increased the total teaching time, forced the teachers to give up some of their own time monopolizing the teaching time, gave each younger student someone with which to identify, developed an interdependent system in the school between teachers and students, reduced individual competitiveness of the school atmosphere, and reemphasized an overall sense of community.

Fleming, J. Carl, "Pupil Tutors and Tutees Learn Together," Today's Education 58:22-24, October, 1969.

The Student Team Action Program at Fernwood Elementary School in Portland, Oregon used every upper grade student to tutor primary grade students in all subjects. This was an ongoing program which was so successful that it was extended throughout the entire system. Benefits were noted chiefly through tutor and tutee remarks. They reported feeling challenged, changing their attitude towards younger children, appreciating the teacher's work, feeling a new responsibility and courage, improving their ability to communicate, and feeling confident.

Lippitt, Peggy, and Lohman, John E., "Cross-Age Relationships - An Educational Resource," Children 12:113-117, May-June, 1965.

Based on Lippitt's many experiences directing cross-age tutoring programs, it was stated that older children were observed to be good teachers of younger children and able to profit from the experience by learning themselves. The older tutors provided a role model which aided the tutees socialization process. The tutor appreciated his own learning skills with a more realistic self-image.

REVIEW OF RESEARCH IN CROSS-AGE TUTORING

Devin-Sheehan, Linda; Feldman, Robert S.; and Allen, Vernon L., "Research on Children Tutoring Children: A Critical Review," Review of Educational Research 46:355-385, Summer, 1976.

This article pointed out that the studies represented a wide variety of tutoring programs from elementary ro secondary, volunteers to paid tutors, and underachievers to high-achievers indicating that several kinds of programs were effective in tutoring. The evidence was not conclusive for almost all the variables involved in tutoring programs such as tutor-tutee pairing, training, and age differential. It was stated that research needed to focus on controlling for the variables rather than simply on tutoring effectiveness. Limitations in the research included lack of control groups, uncontrolled length of instruction time, and lack of consistent supervision.

Klaus, David J., Patterns of Peer Tutoring, Paper Presented at the Annual Meeting of the American Educational Research Association, ED 103 356, Washington, D.C., March, 1975.

One of the major points presented in this work was the statement that teachers and administrators designed programs based on their own individual needs which lead to widely varying tutorial programs. After reviewing several tutoring projects, it was found that the successful programs depended on hard work and good organizational planning. Many different kinds of designs produced beneficial outcomes depending on the needs to be met. Academic gains were most probable when the tutor was allowed to make decisions about content. Social gains were probable when the tutors focused on strengths rather than weaknesses of the tutees.

Lewis, James M., "Analysis of the Tutoring Variable in Individualized Instruction," Educational Technology 19:41-44, March, 1979.

Student-to-student tutoring and mediated tutoring, which included the use of programmed instruction, and teaching machines, were examined. The review of published research in peer tutoring concluded that tutors and tutees made greater cognitive gains than non-tutors and non-tutees despite the fact that some unpublished dissertations cited no significant gains following tutoring on the part of tutors or tutees. It was stated that the length and type of tutoring sessions and the use of a control group were factors to examine in the research that has been done. More controlled studies were suggested in an effort to further validate the systematic effects of tutoring.

Mavrogenes, Nancy A., and Galen, Nancy D., "Cross-Age Tutoring: Why and How," Journal of Reading 22:344-353, January,1979.

A review of cross-age tutoring in this article confirmed the positive cognitive effects of tutoring as well as described some limitations of the research to date. It was indicated that the majority of studies measured cognitive gains in reading as opposed to other academic subjects. Even though the few studies involving other academic areas did reveal significant gains following tutoring, additional studies would cause the results to be more convincing. Valid affective information was reported as being difficult to obtain due to the imprecise measures available. This article also outlined important variables to consider in a tutoring program and the implementation of such a program.

Melaragno, Ralph J., "Pupil Tutoring: Directions for the Future," The Elementary School Journal 77:384-387, May, 1977.

The known facts about peer tutoring as determined by previous studies were outlined in this article. Various academic content areas were found to be amenable to tutoring. Structured peer tutorial programs demonstrated more effectiveness than non-structured. Positive cognitive gains were found to be significant and consistent in the studies. However, several areas were pointed to as needing further investigation. These included the need to alter the program to meet higher cognitive levels, to include a wide variety of students rather than only low-achieving and culturally deprived, and to support the adequate measurement of affective growth with more rigorous and valid instruments.

Paolitto, Diana Pritchard, "The Effect of Cross-Age Tutoring on Adolescence: An Inquiry into Theoretical Assumptions," Review of Educational Research 46:215-237, Spring, 1976.

Paolitto examined the history of the development of cross-age tutoring from a cultural transmission ideology, which was teaching what was accepted by the culture; to romantic idology, which was teaching a child to use innate creative energy; to progressive ideology, which was teaching to stimulate higher cognitive thinking. The extensive review concluded that although the study of cross-age tutoring research was becoming significantly more empirical in recent years, there was still a need for extensive quantitative research in developing effective preservice training for tutors and pairing tutors and tutees.

Stainback, William.C.; Stainback, Susan B.; and Lichtward, Fred, "The Research Evidence Regarding the Student-to-Student Tutoring Approach to Individualized Instruction," Educational Technology 15:54-56, February, 1975.

This article reviewed research in cross-age tutoring. The research studies and their findings demonstrated several limitations. The questionable reliability and validity of teacher-made evaluative instruments, the absence of a well-matched control group, the use of a biased sample, and the lack of control for the Hawthorne Effect, which caused students to change to conform to the expectations set forth at the onset of the program, were cited as limitations found in many of the studies. More rigidly controlled studies were recommended.

SUMMARY

A needed change in the educational environment was strongly suggested by Thelen (1969), Melaragno and Newmark (1969-1970), and Elliott (1977) as the various negative trends developing within the field of education were described. That change, in order to be successful in altering the negative trends would have to be in the form of individualized instruction, cross-age tutoring, to be exact. Thelen (1969) pointed out the need for more variety in individualized teaching methods to prevent the discrimination against the disadvantaged and minority groups caused by the narrowness of the present methods. He also stated that competition in the educational atmosphere had an overwhelming, negative effect on students. "Students learning through helping each other is a very promising alternative to learning through competing with each other" (Thelen: 238). To further dramatize the need for cross-age tutoring, current developments such as the overall decrease in student enthusiasm for school and boredom among high achievers were cited by Melaragno and Newmark (1970). In answer to these problems, it was said that "the school must become a learning community with its various members joined in a common effort to improve the learning of all" (Melaragno & Newmark: 33). A final point was the contention that since children were becoming passive learners, the only way to alter that progression was "to

reorganize the school in such a way that the child has an active role, has definite responsibilities, and achieves results" (Elliott: 286).

A structured cross-age tutoring program of some kind with specific training materials, techniques, and procedures was considered essential for a successful cross-age tutoring program according to Ehly and Larsen (1976) and Harrison (1978). Boraks and Allen (1977) emphasized training the tutor to give proper feedback during tutoring sessions. Ehly and Larsen (1976) felt administrative backing, teacher cooperation, and supervision of tutors and tutees were essential. Hagan (1971) suggested the importance of tutor-tutee selection and pairing as well as length and location of sessions. Nearly all stated that tutor training was a must. Excellent step-by-step manuals such as Weinstein's (1970) Youth Tutoring Youth, Gartner, Kohler, and Riessman's (1971) Children Teach Children, and Lippitt's (1969) Cross-Age Helping Program further demonstrated the number of variables to consider in implementing a cross-age tutoring program. In addition to previous factors mentioned, they included good evaluation and observation methods, staff training methods, orientation procedures, and problem handling procedures.

After reviewing the studies in cross-age tutoring to evaluate the effectiveness of this type of tutoring in terms of cognitive gains for tutor and tutee, the results appeared

quite positive. All studies cited in the cognitive gain section of this paper demonstrated an increase in cognitive level for the tutee. However, only a few presented evidence supporting the same for the tutor. Two studies, Cloward's (1967) classic experiment and Dineen's (1977) work, resulted in significant increases in both tutor and tutee skill levels. Landrum's (1970) work revealed the same information, but the results were not presented with the same convincing statistical evidence. The research of Erikson (1972) resulted in definite gains for the tutee, but another statistical method was needed in order to make the results show an increase in reading for the tutor. This finding was less convincing as a result. Snapp's (1972) work revealed significant gains for tutee in reading, but none were found for the tutor. Seven out of the total eleven studies presented in the cognitive gain section of this paper dealt with reading skills as opposed to other academic subjects. They all measured cognitive gain as a result of tutoring with little, if any, regard for controlling other variables involved in the tutorial program.

The effectiveness of cross-age tutoring in the area of social-emotional gains was also investigated. Bean and Luke (1972) used a sentence completion test to yield an overwhelming indication of improved self-concept for both the tutors and the tutees following tutoring. Elliott (1973)

chose to review several studies and compile a list of outcomes developed from them. The social-emotional benefits he found to exist included the development of an interdependent system in the school between teachers and students, reduction of individual competitiveness among students, and the development of an identity relationship of a younger student with an older one. Fleming (1969) reported tutor and tutee remarks which stated other social-emotional benefits such as a sense of challenge, teacher appreciation, confidence, and responsibility. Lippitt (1965) found that tutors bettered their own self-images while tutees gained improved socialization skills. With the exception of Bean and Luke's results, the findings above were based on observations or verbal answers.

Several authors found it necessary to review much of what has been done in the area of cross-age tutoring in order to summarize the results as well as state limitations. Devin-Sheehan, Feldman, and Allen (1976) and Lewis (1979) stated that the evidence was not conclusive for the many variable involved in cross-age tutoring and that further research needed to deal with the control of these variables. Lewis (1979) and Stainback, Stainback, and Lichtward (1975) also suggested that the length and type of sessions as well as the better use of a control group were factors to examine in future research. Mavrogenes (1979) contended that reading was used all too often in tutoring programs as opposed to other academic subjects.

It was also pointed out by Melaragno (1977) and Stainback, Stainback, and Lichtward (1975) that affective or social-emotional gains needed to be measured with more valid instruments.

CONCLUSIONS

Three main conclusions were drawn from this study of cross-age tutoring. They were as follows:

Conclusion I - Although all cross-age tutoring programs were not exactly the same, it was concluded from the works of Ehly and Larsen (1976) and Harrison (1978) that structure and organization of the many variables found in the implementation of tutoring programs were essential to the success of a cross-age tutoring program.

Conclusion II - It was concluded from the work of Cloward (1967), Dineen (1977), Harris and Sherman (1973), and Snapp, Oakland, and Williams (1972) that cross-age tutoring provides to the tutee, and to a lesser extent, the tutor with significant cognitive gains so as to indicate that this type of individualized instruction would be a beneficial, effective complement to traditional teaching methods in the elementary schools. Yet, in the work of Devin-Sheehan, Feldman, and Allen (1976), Lewis (1979), Stainback, Stainback, and Lichtward (1975), and Mavrogenes (1979) specific limitations included the lack of controlled studies to investigate the role of the many

variables in a tutorial program, the lack of good control groups, and the lack of more studies using academic subjects other than reading were cited. These prevented a valid, comprehensive assessment of the full extent of cognitive gains from being made at this time.

Conclusion III - The work of Bean and Luke (1972), Lippitt (1965), Fleming (1969), and Elliott (1973 concluded that cross-age tutoring resulted in significant social-emotional gains for the tutor and tutee. However, limitations were noted by Mavrogenes (1979) as to the need for more precise measures for determining affective growth. Melaragno (1977) concluded that more rigorous and valid instruments were needed to increase the validity of the affective results reported.

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